GULF WAR TOOLBOOK

A Research Paper

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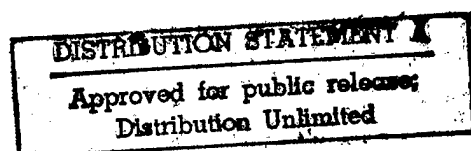The Directorate of Research

Air Command and Staff College

In Partial Fulfillment of the Graduation Requirements of ACSC

by

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The views expressed in this paper are those of the authors and do not reflect the

official policy of the US Government of the Department of Defense.

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GULF WAR TOOLBOOK

Objective

Much of what has been written on the specific order of battle during the Gulf War is narrowly focused; that is, no single source adequately reflects the overall order of battle for all the Coalition and Iraqi forces. Laymen and professionals alike need an unbiased, comprehensive source that makes sense of the flood of images and data that resulted from the Gulf War. Students, in particular, have a specific need for a comprehensive, unclassified reference containing basic information on the entire war.

An initial attempt to provide this information is contained in two commercial works, The Gulf War Fact Book and The Gulf War Order of Battle (unpublished). Because The Gulf War Fact Book was published so soon after the conflict, it contains some inaccuracies. Perhaps the closest any existing work has come to being complete is the massive DOD Report to Congress; however, due to its size and because it addresses only US military forces, it is not comprehensive.

Today, more is known about the Gulf War by more people than any other war in human history. What was the first US aircraft in theater? What forces did the Republic of Korea deploy to the theater? What are the histories of the units involved? What were the significant accomplishments of the major units that fought the war? What were the backgrounds of the bulk of leadership during the war? This ToolBook seeks to answer

these questions. The team's overall goal was to fill in holes in the facts as well as the even

bigger gaps in understanding. The objective of the research compiles military information

on the Gulf War and presents it in a clear, concise, multi-media-based format through the

use of the ToolBook authoring software system.

Literature Review

The scope of the ToolBook dictated use of a myriad of sources to include published books, unpublished manuscripts, historical agencies, personal interviews, and the personal experiences of team members who participated in the Gulf War. Two primary sources provided a solid core of information around which both the Order of Battle and Fact Book sections were built. The Gulf War Order of Battle (unpublished manuscript) was especially useful for Army and Air Force order of battle information, and The Gulf War Fact Book provided significant weapons systems data. Serious gaps in essential data still existed requiring extensive research by team members to fill those gaps and resolve the innumerable inconsistencies found throughout the available body of literature. Jane's almanac series (World Aircraft and World Ammo) and Bruce Watson's Military Lessons of the Gulf War were used extensively to support naval research and fact book requirements.

The USMC information was drawn from three of the series of books published by the Marine History and Museums Division after the war. The books were supplemented by data from a personal interview conducted with Major General J. M. Myatt concerning the activities of the 3rd Marine Air Wing. The majority of the information concerning the Navy's involvement in the war came from an unpublished manuscript provided by Mr. Robert J. Schneller, Jr. Periodicals and personal interviews with international officers attending the Air War College provided additional information on Coalition and Iraqi forces. Information on all Iraqi forces is scarce because most documentation is either still

classified or unavailable. In the case of naval forces, historical data is simply unavailable in sufficient depth to provide details to fill in the data fields on the <u>Order of Battle</u> screen faces.

In most cases serious inconsistencies existed between sources. Wherever possible, resolution was based upon verification through personal interview or wartime documentation such as real-world, unclassified message traffic. In other cases we relied upon the source providing the preponderance of information in the subject area.

Methodology

This project took a design to budget approach to produce a multi-media ToolBook depicting the order of battle for all Coalition and Iraqi air, land, sea, and space forces involved in the Gulf War. The initial approach was to ascertain the type of information most useful to future ACSC students; determine how to best depict that information for ease of understanding and use; to apply the information to the current course structure; and finally, to limit the scope of the project to a manageable level while providing for future growth. The ToolBook concentrates on operational combat forces while providing a framework for future inclusion of support forces.

In order to provide an open source reference on the Gulf War, the ToolBook is unclassified. Hence, the names of some Coalition force commanders as well as the behind-the-scenes work of the Special Operations forces were omitted. Because the actual order of battle changed during each phase of the Gulf War, the ToolBook represents the situation on 17 Jan 1991 (after the build-up and before hostilities began).

Information was categorized into three functional areas and developed into a separate ToolBook as follows: Order of Battle, Fact Book, and Glossary. All three were later combined into one overall ToolBook. This functional division facilitated concurrent production efforts for each ToolBook section. The production effort was further broken into three areas: screen presentation and information flow design; research; and software development and data entry.

The Order of Battle section portrays the warfighting forces down to the wing, division, and naval battle group levels. The Fact Book section provides detailed information on the weapons and munitions those forces employed. The Glossary section allows a look-up capability for key words and terms used throughout the ToolBook. The three component ToolBooks form the overall Gulf War ToolBook and are designed to allow linkages between each component. Screen face presentations were designed with graphical interfaces that allow the user to transition throughout the entire ToolBook to rapidly gain access to desired information. Where appropriate, full motion video was also integrated to allow the user to see many weapons systems in action.

Design Description and Data Flow

Simplicity and standardization were the two guiding principles during design of the screen presentations and data flow. In practice, these principles ensure ease of navigation through the ToolBook. The entire ToolBook is navigable via icons that allow switching between sections, the main menu, or table of contents. These navigational icons are in standardized locations throughout. 'Hot' words and objects are a standard feature allowing access to additional information on units, key words, and terms. A comprehensive tutorial is available at the beginning of the ToolBook to teach students to use the icons and navigate through the ToolBook.

The Order of Battle section presents unit information via a series of organization-type charts. This structure does not necessarily represent administrative or operational chains of command, but serves as a tool to represent operational coordination for the order of battle. Each significant unit down to the wing, division, or battle group level is depicted on its own page. On each page students will find commanders' names and biographies, unit symbols and patches, major weapons systems and munitions employed, unit histories, and significant unit Gulf War details. Students may navigate from the top-level page to subordinate units by 'clicking' on shadowed rectangles. A non-shadowed rectangle indicates no further information is available. Clicking on the parent unit button above the currently depicted unit box will return the student to the current unit's parent page. Additional information is available for specific words and terms throughout the ToolBook; they are identified in red type and may be 'clicked' on at any time. 'Poking'

the mouse into the unit weapon drawing will automatically reveal useful weapons information.

The Fact Book portion is designed to present the weapons and munitions that were employed in the Gulf War. This section is menu-driven to allow the student to choose between the following options: summary of the Gulf War (each major battle is depicted), glossary, NATO unit symbols, weapons systems (Coalition or Iraqi), munitions (Coalition or Iraqi), and space systems. Most weapons systems descriptions are accompanied by line drawings to aid understanding. Line drawings were chosen over photos to speed computer access time and limit the time students wait for new screens to appear.

The Glossary provides look-up capability for approximately 500 key terms and words used in the ToolBook. The Glossary and Fact Book use a standard screen presentation. Students may select subject areas to gain further information. Throughout the Fact Book and Order of Battle sections drawings, photographs, and video were included to aid the students in visualizing weapons systems and munitions.

Documentation for the ToolBook is provided on each screen presentation. This method of citing sources was used at the direction of ACSC/DST. 'Hot worded' superscript numbers provide navigation from the identified ToolBook page to the appropriate bibliography page. Specific numbers provide guidance to the source from which the framework or predominant research was extracted although specific information presented may have originated from multiple sources.

Conclusions and Recommendations

The research team found that although there is a wealth of information available regarding the Gulf War, much of the data is inaccurate or incomplete. The group did not find a single source document that was complete, entirely accurate, or comprehensive. For example, some documents listed aircraft participating in the Gulf War that were not even in the Air Force inventory at the time. Some documents listed aircraft available, but had no information about organizational command structures or personnel. The team's research resulted in developing a repository of information that is both accurate and comprehensive.

Due to team size and diversity of talent (software designers, Gulf War veterans, and international officers widely representing the Coalition), the scope of the project was expanded from the original charter to automate the order of battle to further include fact book information. Those team members who were veterans of the Gulf War added first hand knowledge as well as access to personal contacts. In short, the larger team accommodated a more robust research effort ensuring students at ACSC and the Air War College will find the Gulf War ToolBook factual and interesting.

The following recommendations are included as suggestions to an Academic Year 96 research team:

1. Integrate the Gulf War ToolBook with other existing ToolBooks to expand specific interest areas such as the Night, Strike, and Gulf War Logistics ToolBooks.

2. Add special interest items not currently in the ToolBook addressing subjects such as Prisoners of War personal war stories.

3. Add moving map displays where possible to demonstrate where fighting units and aircraft attacked the enemy.

4. Add additional video footage to the <u>Fact Book</u> portion.

5. Expand the depth of the ToolBook to address further subordinate level units and their operating locations for all forces (including Iraqis).

Much of the research supporting these recommendations has been compiled for the US Air Force. Since a commensurate level of information is not available for the sister services, Coalition, and Iraqi forces, inclusion of the disproportionate US Air Force data in the ToolBook at this point would result in an unbalanced product. The research team provided this data to the Faculty Advisor, Matt Caffrey, at ACSC/DEC, Maxwell AFB, AL.

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Vita

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Major Curtis Diggs received his commission in the United States Army through Reserve Officer Training Corps in 1980. He received his Bachelor of Science degree in Chemistry from Arkansas Technical University and his Master of Science degree in Public Administration from Central Michigan University. He has had various assignments within the Army as a Brigade, Division, and Major Command Chemical Officer, and as an Executive Officer for the 180th Transportation Battalion at Fort Hood, TX. He completed the Army Command and General Staff Course in 1987. Curtis conducted the majority of the research for all US army units committed to the Gulf War. Major Diggs will be stationed at

Major Abdulrahman S. E. Eyadah is an F-15 pilot in the Saudi Arabian Air Force. During the Gulf War he served as his Air Force's liaison officer to the American Tactical Air Control Center. Major Eyadah's secondary specialty is intelligence. He conducted the research on the Gulf Cooperation Council primarily utilizing personal interviews with senior Coalition officers who were assigned to the Gulf during the war. Major Eyadah will return to Riyadh, Saudi Arabia as the squadron commander of the Tactical Training Squadron.

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